

# UNIPUNCH

## HOLES IN PARTS. *FAST.*

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Round Holder Assembly

### AD-4 Unit (For Round Holes)

#### Assembly and Punch and Die Replacement

##### Lower Arm Assembly

**Pilot Pin Removal:** To remove the pilot pin, thread the ¼-20 x ½ set screw into the holder to back the pilot pin out of its hole.

**Pilot Pin Installation:** Use a brass or aluminum hammer to install the pilot pin assembly (P/N 1001) into the hole on the bottom of the holder under the die. Ensure the pilot pin is perpendicular to the bottom and extends 3/32" from the bottom surface. Thread the ¼ -20 x ½ set screw (P/N 91332), supplied with the pilot pin, until it touches the bottom of the hole, being careful not to push the pilot pin back out.



1001 Pilot Pin

**Block Die Removal:** To remove the round block die (P/N 2641), turn the unit on its side and unscrew the two Socket Head Cap Screws (S.H.C.S.) (P/N 91029) from the lower arm. Then lift the round block die up and out of the unit.

**Block Die Installation:** First make sure the die and die seat are free of debris. Then insert the round block die (P/N 2641) with the cutting edge on the top, being sure the die is fully seated in the lower arm of the holder. Insert the two S.H.C.S (P/N 91029) up through the lower arm of the holder and into the bottom of the block die and tighten.

##### Upper Arm Assembly

First check punch and die alignment. Externally lubricate round punch body (P/N 2640) with a thin even coat of lubricant (e.g. P/N 8007 Molykote® type G-N metal assembly paste). Loosely thread the punch retainer screw (P/N 2668) a few threads, by hand, into the punch. Drop the punch through the guide bushing of the holder, gradually lowering the punch into the die. Visually look to see that the die clearance is even all the way around. If the die clearance is uneven, contact UniPunch.

Pull the punch back out of the unit and remove the punch screw. Set the stripper plate (P/N 2639) on top of the die running lengthwise with the unit. Drop the punch back down through the guide

bushing and through the center hole of the stripper plate. Assemble the (4) lifter springs (P/N 2645) into the four small pockets on the upper arm of the holder. Then drop the two spring guide assemblies (P/N 2643) down through the two larger holes on the upper arm of the holder and align the two larger pockets on the stripper plate with the bottom of the spring guide assemblies. Assemble the two Button Head Socket Cap Screws (B.H.S.C.S.) (P/N 91141) up through the bottom of the stripper plate into the two spring guide assemblies, but do not tighten yet. Set the punch plate (P/N 2638) on top of the upper arm running lengthwise with the holder and, while lifting on the stripper plate, align the two smaller tapped holes on top of the spring guide assemblies with the two holes in the punch plate and assemble the four B.H.S.C.S (P/N 91140) into each of the small holes on the punch plate and into the top of the spring guide assemblies. Now, tighten the B.H.S.C.S. on the bottom of the stripper plate using a Hex Key Wrench.

Finally, lifting the punch back up from the underside of the upper arm, assemble the punch retainer screw (P/N 2668) through the top of the punch plate and into the punch and tighten.

### **Converting a Round Unit to a Shaped Unit**

Purchase a key kit (P/N 9310) and the appropriate shaped punch and die.